WHAT IS CLAIMED IS:

1. An information processing system comprising:

a first processor having a first local memory;

a second processor having a second local memory;

a third processor having a third local memory;

means for mapping one of the second local memory and the third local memory in part of an effective address space of a first thread to be executed by the first processor, said one of the second local memory and the third local memory being the local memory of a corresponding one of the second processor and the third processor, which executes a second thread interacting with the first thread; and

means for changing said one of the second local memory and the third local memory which is to be mapped in part of the effective address space of the first thread to the other when one of the second processor and the third processor that executes the second thread is changed to the other.

2. The information processing system according to claim 1, further comprising:

a shared memory shared by the first processor, the second processor, and the third processor;

means for storing contents of said one of the second local memory and the third local memory in a memory area on the shared memory when the second thread stops to run; and

means for changing said one of the second local
memory and the third local memory which is to be mapped
in part of the effective address space of the first
thread to the memory area on the shared memory.

5   3.   The information processing system according to
claim 2, further comprising:

means for restoring contents of the memory area
on the shared memory to said one of the second local
memory and the third local memory when the second

10   thread is resumed by said one of the second processor
and the third processor; and

means for changing the memory area on the shared
memory to be mapped in part of the effective address
space of the first thread to said one of the second

15   local memory and the third local memory.

4.   The information processing system according to
claim 2, further comprising:

means for restoring contents of the memory area
on the shared memory to the other of the second local

20   memory and the third local memory when the second
thread is resumed by the other of the second processor
and the third processor; and

means for changing the memory area on the shared
memory to be mapped in part of the effective address

25   space of the first thread to the other of the second
local memory and the third local memory.

5.   A method of managing a local memory used for

communication between a plurality of threads, the
threads being executed by an information processing
system including a first processor having a first local
memory, a second processor having a second local
memory, and a third processor having a third local
memory, the method comprising:

mapping one of the second local memory and the
third local memory in part of an effective address
space of a first thread to be executed by the first
processor, said one of the second local memory and the
third local memory being the local memory of a corre-
sponding one of the second processor and the third
processor, which executes a second thread interacting
with the first thread; and

changing said one of the second local memory and
the third local memory which is to be mapped in part of
the effective address space of the first thread to the
other when the one of the second processor and the
third processor that executes the second thread is
changed to the other.

6. The method according to claim 5, further
comprising:

storing contents of said one of the second local
memory and the third local memory in a memory area on a
shared memory, which is shared by the first processor,
the second processor, and the third processor, when the
second thread stops to run; and

changing said one of the second and third local memories which is to be mapped in part of the effective address space of the first thread to the memory area on the shared memory.

7. The method according to claim 6, further comprising:

restoring contents of the memory area on the shared memory to said one of the second local memory and the third local memory, when the second thread is resumed by said one of the second processor and the third processor; and

changing the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to said one of the second and third local memories.

8. The method according to claim 6, further comprising:

restoring contents of the memory area on the shared memory to the other of the second local memory and the third local memory, when the second thread is resumed by the other of the second processor and the third processor; and

changing the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to the other of the second local memory and the third local memory.

9. A program stored in computer-readable media,

which causes a computer to manage a local memory used

for communication between a plurality of threads, the

computer including a first processor having a first

local memory, a second processor having a second local

5   memory, and a third processor having a third local

memory, the program comprising:

causing the computer to map one of the second

local memory and the third local memory in part of

an effective address space of a first thread to be

10   executed by the first processor, said one of the second

local memory and the third local memory being the local

memory of a corresponding one of the second processor

and the third processor, which executes a second thread

interacting with the first thread; and

15   causing the computer to change said one of the

second local memory and the third local memory which

is to be mapped in part of the effective address space

of the first thread to the other when the one of the

second processor and the third processor that executes

20   the second thread is changed to the other.

10. The program according to claim 9, further

comprising:

causing the computer to store contents of said one

of the second local memory and the third local memory

25   in a memory area on a shared memory, which is shared by

the first processor, the second processor, and the

third processor, when the second thread stops to run;

and

causing the computer to change said one of the second and third local memories which is to be mapped in part of the effective address space of the first thread to the memory area on the shared memory.

11. The program according to claim 9, further comprising:

causing the computer to restore contents of the memory area on the shared memory to said one of the second local memory and the third local memory, when the second thread is resumed by said one of the second processor and the third processor; and

causing the computer to change the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to said one of the second and third local memories.

12. The program according to claim 9, further comprising:

causing the computer to restore contents of the memory area on the shared memory to the other of the second local memory and the third local memory, when the second thread is resumed by the other of the second processor and the third processor; and

causing the computer to change the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to the

other of the second local memory and the third local
memory.